

## ABSTRACT of DISCLOSURE

The present invention provides an apparatus and a method for used in a board inspection capable of an inspection of defect in a circuit board with high resolution over a wide range.

The method is used for manufacturing a sensor probe comprising layers which include an electrode layer, a lead wire layer and a bridge layer (41). These layers are laminated on a base (30) in the form of a flat plate composed of silicon. The electrode layer is comprised of a set of sensor electrodes (40). The lead wire layer is comprised of a set of lead wires (50) for transferring a signal externally. The bridge layer couples between the electrode layer and the lead wire layer. The lead wire layer is formed by means of depositing aluminum in accordance with a first mask pattern. The bridge layer is formed by means of growing each of bridge wires (41) in the direction perpendicular to the base. The bridge wires extend in the direction perpendicular to the base and are connected to respective lead wires of the lead layer. The respective electrodes of the electrode layer are formed by depositing aluminum in accordance with a second mask pattern. The plurality of sensor electrodes respectively extend in the horizontal direction and having a predetermined area. A shield layer (33) is provided between the electrode layer (40) and the lead wire layer (50).